



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,224	12/23/2005	Alexander Mueller	MULL3009/EJD	5317
23364 7590 11/21/2008 BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314-1176				
EXAMINER				
SHABMAN, MARK A				
ART UNIT		PAPER NUMBER		
2856				
MAIL DATE		DELIVERY MODE		
11/21/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/562,224

**Applicant(s)**

MUELLER ET AL.

**Examiner**

MARK SHABMAN

**Art Unit**

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

Claim 10 is objected to because of the following informalities: in the previous non-final action, the terms found in parentheses (G; G<sub>minimum</sub>; G<sub>maximum</sub>) were objected to and removed in the subsequent amendments. Line 13 of the claim still contains one occurrence of the objected matter which should be removed to follow the previous objection and amendment. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding **claim 16**, the term "free" as it appears in line 2 of the claim is unclear as there is no description as to what a "free" report is or why it is enclosed in quotation marks. It is unclear whether this refers to a simple activity report, or if the quotations denoting it as "free" hold any particular significance.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 10-18** are rejected under 35 U.S.C. 102(b) as being anticipated by D'Angelico US Patent 6,389,891 B1 (hereinafter referred to as D'Angelico).

Regarding **claim 10**, D'Angelico discloses an apparatus for monitoring a process variable of a medium such as filling level or density (abstract). The apparatus comprises an "oscillatable unit" 2 with a "driving/receiving unit" 6, a "control/evaluation unit" 10 which "produces an accretion alarm" (column 4 lines 34-40) when a change in frequency of the oscillation falls below an acceptable limit. Column 8 describes how a change of frequency in operating mode C relates to an increase of coating mass or accretion. The coating curves of figures 4 and 5 in D'Angelico are described as being determined empirically in column 7 and therefore the "adjustable limit value" which is used to determine whether a oscillating frequency is too low is "determined and/or calculated at least from measured dependencies" as claimed.

Regarding **claim 11**, since the adjustable limit value is calculated empirically as previously disclosed, it is calculated as "a function of use of the field device" which can be either a "maximum switch" or "minimum switch" as claimed since the alarm is triggered when a frequency falls below a tolerable minimum.

Regarding **claim 12**, turning to figure 3 of D'Angelico, the adjustable limit value is seen for example in Mode A,  $m=m_a$  where the accretion is at a specific coating mass. As mentioned prior, an alarm is set to trigger when the accretion hits a predetermined level, and thus the limit value can be determined from a smallest oscillation frequency as a function of the maximum, the process conditions (i.e. immersion level), and with reference to the field device and the allowable process variable as claimed.

Regarding **claim 13**, the apparatus of D'Angelico determines the "limit value" by taking into consideration a frequency change associated with the maximum allowable accretion since the threshold for triggering the alarm is based on a set frequency detected.

Regarding **claim 14**, column 3 of D'Angelico discloses the use of density in determining change of frequency of the oscillator and the limit value is calculated from these values accordingly.

Regarding **claim 15**, D'Angelico discloses an output unit 14 which is used as a "review unit" to produce an error message or "accretion alarm" independently of the control/evaluation unit. As stated previously, the alarm is generated when the frequency falls below a limit value.

Regarding **claim 16**, the apparatus of D'Angelico discloses the monitoring of the frequency to include increases in frequency as well as decreases. Thus, when the oscillations exceed an "over-value" an alarm or "'free' report" is generated. The "over-value" is determined in the same way as the limit value and thus is calculated from

measured or calculated dependencies of the oscillation frequencies of a process variable.

Regarding **claim 17**, it can be seen in figure 3 for example, (mode A,  $m=0$ ) the frequency when no accretion is present on the oscillator. Considering any amount over this to be the "over-value" as claimed, the over-value is calculated empirically based on the greatest oscillation frequency (assuming no deterioration) as a function of corresponding maximum allowable process conditions and uncovered (or unimmersed).

Regarding **claim 18**, the apparatus of D'Angelico has a maximum allowable accretion frequency which is used to determine when the alarm is triggered which is taken into consideration when determining an over-value as claimed.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK SHABMAN whose telephone number is (571)270-3263. The examiner can normally be reached on M-F 8:00am - 4:30pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. S./  
Examiner, Art Unit 2856  
/Hezron Williams/  
Supervisory Patent Examiner, Art Unit 2856